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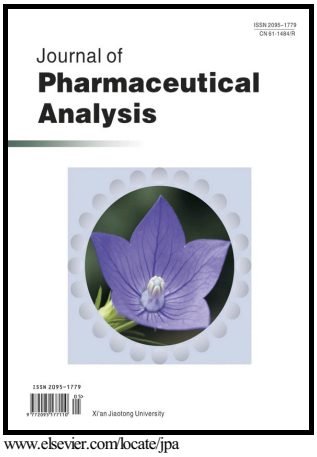

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PII: S2095-1779(17)30052-7
DOI: http://dx.doi.org/10.1016/j.jpha.2017.05.004
Reference: JPHA366

To appear in: *Journal of Pharmaceutical Analysis*

Received date: 30 November 2016
Revised date: 15 May 2017
Accepted date: 18 May 2017

Cite this article as: Pinaki Sengupta, Bappaditya Chatterjee, Uttam Kuma Mandal, Bapi Gorain and Tapan Kumar Pal, A high throughput LC-MS/MS method for simultaneous quantitation of pioglitazone and telmisartan in ra plasma; development, validation and pharmacokinetic application, *Journal o Pharmaceutical Analysis,* http://dx.doi.org/10.1016/j.jpha.2017.05.004

A high throughput LC-MS/MS method for simultaneous quantitation of pioglitazone and telmisartan in rat plasma; development, validation and pharmacokinetic application

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Abstract

Management of cardiovascular risk factors in diabetes demands special attention due to their co-existence. Pioglitazone and telmisartan combination can be beneficial in effective control of cardiovascular complication in diabetes. In this research, we have developed and validated a high throughput LC-MS/MS method for simultaneous quantitation of pioglitazone and telmisartan in rat plasma. This developed method is more sensitive and able to quantitate the analytes in relatively shorter period of time compared to the previously reported methods for their individual quantification. Moreover, till date, there is no bioanalytical method available to simultaneously quantitate pioglitazone and telmisartan in a single run. The method has been validated according to the USFDA guidelines for bioanalytical method validation. A linear response was observed over the range of 0.005–10 µg/mL with satisfactory precision and accuracy. Accuracy at three quality control levels was within 94.27-106.10%. The precision value in intra and inter-day precision ranged from 2.32 to 10.14 and 5.02 to 8.12%, respectively. The method was reproducible and sensitive enough to quantitate pioglitazone and telmisartan in rat